TOSHIBA

This product specification is variable and subject to change prior to product launch.

Tecra Z50-A Detailed Product Specification[1]

Model Name: Z50-A1501	Part Number: PT545U-00W004	UPC: 022265679265

Operating System C1 2

- Windows 7 Professional (Windows 8.1 Pro license and recovery media included)

Processor[3] and Graphics[4]

- Intel® Core™ i5-4300U Processor
  - (3M Cache,up to 2.9GHz)with Intel® Turbo Boost Technology 2.0
- Intel® AMT 9.5
- Mobile Intel® HD Graphics dynamically allocated shared graphics memory

Memory[5]

- Configured with 8GB DDR3L 1600MHz (max 16GB)
- 2 memory slots. One slot occupied. Not user replaceable.

Storage Drive[6]

- 320GB (7200 RPM) Serial ATA hard disk drive
- TOSHIBA Hard Drive Impact Sensor (3D sensor)

Display[7]

- 15.6" diagonal widescreen TFT display at 1366 x 768 native resolution (HD)
  - Native support for 720p content
  - 16:9 aspect ratio
  - LED backlit

Sound

- Built-in stereo speakers
- DTS Studio Sound™

Input Devices

- Premium Keyboard with 10-key
- Accupoint pointing device
- Touch pad pointing device with multi-touch control

Communications

- Full HD webcam(2.0 MP) and stereo microphone
- Intel® Gigabit Network Connection (10/100/1000)
- Intel® Dual-Band Wireless-N 7260 2x2 AC Plus Bluetooth 4.0[8]

Expandability

- Memory Card Reader
  - Secure Digital, Secure Digital High Capacity, Mini SD Card, Micro SD Card, SDXC, Multi Media Card [shared slot may require adapter for use]

Ports

- Video
  - RGB
  - HDMI®
- Audio
  - Microphone input/ Headphone output (shared)
- Data
  - 3 USB 3.0[9] ports (1 with USB Sleep and Charge[10])
  - 1 USB 2.0 port
  - RJ-45 LAN port
  - Docking connector
- Security
  - Fingerprint Reader
  - Slot for security lock

Physical Description

- Cosmo Silver
- Dimensions (W x D x H):
  - 14.9" x 9.9" x 0.80"
  - 379mm x 252mm x 20.4mm
- Weight: Starting at 4.1 lbs (1.85 kg) depending upon configuration[11]

Power

- 65W (19V 3.47) 100-240V/50-60Hz AC Adapter.
- Weight: starting at 0.55 lbs.

Battery[12]

- 4 cell/60 Wh Lithium Ion battery pack(Not user replaceable)
- Battery Life Rating (measured by MobileMark™ Productivity 2012)
  - Included 4 cell battery: up to 8 hours, 38 minutes
  - Windows 8.1 Operating system only

Toshiba EasyGuard®[13]

- Protect & Fix
  - HALT Tested Design
  - LCD Cover Face and Point pressure Resistant Design
  - Hinge Design Enhancement
  - Spill Resistant Keyboard
  - TOSHIBA PC Diagnostic Tool
  - TOSHIBA PC Health Monitor
  - TOSHIBA Shock Protection System
- Secure
  - Execute Disable Bit
  - Fingerprint Reader (includes software for password and identity management)
  - Multiple-Level Password Utilities
  - Reinforced Security Cable Lock Slot
  - Trusted Platform Module v1.2
- Connect
  - Bluetooth Stack for Windows by Toshiba
  - Diversity Antenna
  - Voice-over-IP Ready Design
  - Wireless Communication On/Off
- Optimize
  - FN Shortcut Keys
  - TOSHIBA eco Utility™
  - TOSHIBA Power Management Extension
  - TOSHIBA Recovery Media Creator

Software C1 14(may vary depending on OS)

- Toshiba Software and Utilities
  - TOSHIBA eco Utility™
  - TOSHIBA Fingerprint Utility
  - TOSHIBA Media Player by sMedio Truelink+
  - TOSHIBA Password Utility
  - TOSHIBA PC Health Monitor
  - TOSHIBA Recovery Disc Creator
  - TOSHIBA Service Station
  - TOSHIBA Resolution+® Upconvert Plug-in for Media Player[15]
- Third-party Software
  - Adobe Flash Player
  - Internet Explorer® 10
  - DTS Studio Sound™
- Special Offers and Trial Software
  - 1 month trial for new Office 365 customers[16]
  - Norton™ Internet Security (30-day trial subscription)
  - Norton™ Anti-Theft (30-day Trial)

3 YEAR STANDARD LIMITED WARRANTY[17]

- Includes International Limited Warranty for obtaining service when traveling outside the United States.

Environmental Specifications

- This product is RoHS[18] compatible
- ENERGY STAR® Qualified
- EPEAT Gold Rated

	Operating	Non-operating
Temperature[19]	5° to 35° C	-20° to 65° C
Thermal Gradient	15° C per hour (max)	20° C per hour
Relative Humidity (non-condensing)	20% to 80%	10% to 90%
Altitude	-60 to 3,000 meters	-60 to 10,000 meters

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(relative to sea level)		
Shock	10G	60G
Vibration	0.5G, 0.25G w/ODD	1.0G

Service Upgrades and Extensions
Toshiba offers many different enhanced services such as SystemGuard®, On-Site Repair, and ServiceExpress to provide additional support to your notebook PC. For a full description and complete list of programs and program terms and conditions, please visit www.support.toshiba.com.

Accessories
For additional and most updated accessories, please visit www.accessories.toshiba.com

Memory Upgrade
Part Number	Description
PA5104U-1M4G	Toshiba 4GB DDR3/DDR3L-1600MHz Memory Module
PA5104U-1M8G	Toshiba 8GB DDR3/DDR3L-1600MHz Memory Module

Power
Part Number	Description
PA3917U-1ACA	Toshiba 65W Global AC Adapter

Expansion
Part Number	Description
PA3834U-1DV2	Toshiba USB Portable DVD SuperMulti Drive (Tray Load)
PA5116U-1PRP	Toshiba Hi-Speed Port Replicator III
PA5082U-1PRP	dynadock V3.0 Universal USB Docking Station
PA3927U-1PRP	dynadock U3.0 Universal USB Docking Station

Bluetooth
Part Number	Description
PA3847U-1ETB	Toshiba Bluetooth Laser Mouse, Gloss Black

Carrying Case
Part Number	Description
PA1445U-1CS4	Toshiba 14.1” Envoy Ballistic Polyester Carrying Case
PA1455U-1SN4	Toshiba 14.1 Neoprene Case
PA1503U-1SL3	Toshiba 14” Sling Extreme Back Pack

Display
Part Number	Description
PA5022U-1LC3	Toshiba 15.6-inch Mobile Monitor

Storage
Part Number	Description
PA3879U-1M4S	Toshiba 4GB Micro Swivel USB Flash Drive
PA3879U-1M8S	Toshiba 8GB Micro Swivel USB Flash Drive
PA3879U-1MAS	Toshiba 16GB Micro Swivel USB Flash Drive
HDTC607XK3A1	Toshiba Canvio USB 3.0 750GB Portable Hard Drive, Black
HDTC610XK3B1	Toshiba Canvio USB 3.0 1TB Portable Hard Drive, Black
HDTC615XK3B1	Toshiba Canvio USB 3.0 1.5TB Portable Hard Drive, Black

Subject to Change
While Toshiba has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications, configurations, prices, system/component/options availability are all subject to change without notice. For the most up-to-date product information about your computer, or to stay current with the various computer software or hardware options, visit Toshiba’s Web site at http://www.support.toshiba.com

Return Policy
Notwithstanding anything to the contrary in any third party License Agreement or product documentation supplied with your PC, Toshiba America Information Systems, Inc. (“TAIS”) does not accept the return of component parts, or bundled software, that have been removed from the PC system. Pro-rata refunds on individual PC components or bundled software, including the operating system, will not be granted. If you wish to return a complete PC system, contact the TAIS dealer where you purchased the product, and comply with the dealer’s standard return policies and procedures.

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ToshibaDirect website: http://www.toshibadirect.com
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TAIS PC Support website: http://support.toshiba.com

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[C1] ***64-bit computing:***
64-bit computing requires that the following hardware and software requirements are met:
- 64-bit Operating System
- 64-bit CPU, Chipset and BIOS (Basic Input/Output System)
- 64-bit Device drivers
- 64-bit applications

Certain device drivers and/or applications may not be compatible with a 64-bit CPU and therefore may not function properly. See "Detailed Specs" for more information.

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[1] **Product Series Legal Footnote**. The product specifications and configuration information are designed for a product Series. Your particular model may not have all the features and specifications listed or illustrated. For more detailed information about the features and specifications on your particular model, please visit Toshiba's Web site at pcsupport.toshiba.com.

Product Offering Legal Footnote. Toshiba America Information Systems, Inc. reserves the right to modify or withdraw this offer at anytime without notice

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[2] **Operating System**.

Also see ***64-Bit Computing*** Legal Footnote, if applicable.

Certain Microsoft® software product(s) included with this computer may use technological measures for copy protection. IN SUCH EVENT, YOU WILL NOT BE ABLE TO USE THE PRODUCT IF YOU DO NOT FULLY COMPLY WITH THE PRODUCT ACTIVATION PROCEDURES. Product activation procedures and Microsoft's privacy policy will be detailed during initial launch of the product, or upon certain reinstallations of the software product(s) or reconfigurations of the computer, and may be completed by Internet or telephone (toll charges may apply).

Some software may differ from its retail version (if available), and may not include user manuals or all program functionality.

Offers. Offer terms, duration and product availability all subject to change without notice

[3] **Processor (Central Processing Unit)**. Also see ***64-Bit Computing*** Legal Footnote, if applicable.

CPU performance in your computer product may vary from specifications under the following conditions:

1. use of certain external peripheral products
2. use of battery power instead of AC power
3. use of certain multimedia, computer generated graphics or video applications
4. use of standard telephone lines or low speed network connections
5. use of complex modeling software, such as high end computer aided design applications
6. use of several applications or functionalities simultaneously
7. use of computer in areas with low air pressure (high altitude >1,000 meters or >3,280 feet above sea level)
8. use of computer at temperatures outside the range of 5°C to 30°C (41°F to 86° F) or >25°C (77°F) at high altitude (all temperature references are approximate and may vary depending on the specific computer model – please visit the Toshiba website at www.pcsupport.toshiba.com for details).

CPU performance may also vary from specifications due to design configuration.

Under some conditions, your computer product may automatically shut-down. This is a normal protective feature designed to reduce the risk of lost data or damage to the product when used outside recommended conditions. To avoid risk of lost data, always make back-up copies of data by periodically storing it on an external storage medium. Use your computer product only under recommended conditions. Read additional restrictions under "Environmental Conditions" in your product "Detailed Specs." Contact Toshiba Technical Service and Support for more information.

[4] **Graphics (Graphics Processing Unit)**. GPU performance may vary depending on product model, design configuration, applications, power management settings and features utilized. GPU performance is only optimized when operating in AC power mode and may decrease considerably when operating in battery power mode.

Total Available Graphics Memory is the total of, as applicable, Dedicated Video Memory, System Video Memory and Shared System Memory. Shared System Memory will vary depending on system memory size and other factors.

[5] **Memory (Main System)**. Part of the main system memory may be used by the graphics system for graphics performance and therefore reduce the amount of main system memory available for other computing activities. The amount of main system memory allocated to support graphics may vary depending on the graphics system, applications utilized, system memory size and other factors. Computers configured with a 32-bit operating system can address up to 3GB of system memory. Only computers configured with a 64-bit operating system can address 4 GB or more of system memory.

[6] **Storage Drive**
Computer (Internal) HDD Capacity. One Gigabyte (GB) means 10^9 = 1,000,000,000 bytes using powers of 10. The computer operating system, however, reports storage capacity using powers of 2 for the definition of 1 GB = 2^{30} = 1,073,741,824 bytes, and therefore shows less storage capacity. Available storage capacity will also be less if the computer includes one or more pre-installed operating systems, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

Solid State Drive (SSD) Capacity.
Computer (Internal) SSD Capacity. One Gigabyte (GB) means 10^9 = 1,000,000,000 bytes using powers of 10. The computer operating system, however, reports storage capacity using powers of 2 for the definition of 1 GB = 2^{30} = 1,073,741,824 bytes, and therefore shows less storage capacity. Available storage capacity will also be less if the computer includes one or more pre-installed operating systems, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

[7] **Display**. Small bright dots may appear on your screen display when you turn on your PC. Your display contains an extremely large number of thin-film transistors (TFT) and is manufactured using high-precision technology. Any small bright dots that may appear on your display are an intrinsic characteristic of the TFT manufacturing technology. Over a period of time, and depending on the usage of the computer, the brightness of the screen will deteriorate. This is also an intrinsic characteristic of the screen technology. When the computer is operated on battery power, the screen with dim and you may not be able to increase the brightness of the screen while on battery power.

[8] **Wireless** May require purchase of additional software, external hardware, or services. Transmission speeds may vary. Certain optional features within the wireless-n specifications (if available on your system) may not be supported..

[9] **USB 3.0.** 5Gbps is the maximum theoretical interface transfer rate per the specifications of the Universal Serial Bus 3.0. Actual transfer rate will vary depending on your system configuration and other factors.

[10] **USB Sleep & Charge.** The "USB Sleep & Charge function" may not work with certain external devices even if they are compliant with the USB specification. In those cases, turn the power of the computer ON to charge the device.

[11] **Weight**. Weight may vary depending on product configuration, vendor components, manufacturing variability and options selected.

[12] **Battery Life Rating**.
Measured by MobileMark® 2007 for models preinstalled with Microsoft® Windows 7.

- Benchmark rules for Mobile Mark™ 2007: Wireless connectivity = Off, Screen brightness = 60nits, Predefined workloads.

Measured by MobileMark® 2012 for models preinstalled with Microsoft® Windows 8.

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- Benchmark rules for Mobile Mark™ 2012: Wireless connectivity = On, Screen brightness = 150nits, Predefined updated workloads.

Details of MobileMark® 2007 and MobileMark® 2012 testing protocols are available at **www.bapco.com** MobileMark is a trademark of the Business Applications Performance Corporation.

Rating is for comparison purposes only, and does not indicate the battery life that will be obtained by any individual user. Actual battery life may vary considerably from specifications depending on product model, configuration, applications, power management settings and features utilized, as well as the natural performance variations produced by the design of individual components. The battery life rating is only achieved on the select models and configurations tested by Toshiba under the specific test settings at the time of publication and is not an estimate of a system's battery life under any conditions other than the specific test settings.

After a period of time, the battery will lose its ability to perform at maximum capacity and will need to be replaced. This is normal for all batteries.

[13] **EasyGuard**. Toshiba EasyGuard™ technology comprises a number of features some of which may or may not be available on a particular Toshiba notebook depending on the model selected. See www.easyguard.toshiba.com for detailed information.

[14] **Software**. Also see 64-Bit Computing Legal Footnote, if applicable.

Certain Microsoft® software product(s) included with this computer may use technological measures for copy protection. IN SUCH EVENT, YOU WILL NOT BE ABLE TO USE THE PRODUCT IF YOU DO NOT FULLY COMPLY WITH THE PRODUCT ACTIVATION PROCEDURES. Product activation procedures and Microsoft's privacy policy will be detailed during initial launch of the product, or upon certain reinstallations of the software product(s) or reconfigurations of the computer, and may be completed by Internet or telephone (toll charges may apply).

Some software may differ from its retail version (if available), and may not include user manuals or all program functionality.

[15] **Upconverter/UpconversionTechnology (Resolution+® Technology).** Viewing enhancements may vary depending upon content quality and display device capability/functionality/settings. Depending on the quality of the content, some video noise may be visible.

[16] **Microsoft® Officetrial** Buy Microsoft® Office to use full-featured Office software on this PC.

Microsoft® Software (if included in your PC; e.g., Microsoft Home and Student 2010, Microsoft Office Home and Business 2010, Microsoft Office Professional 2010)

The version of Microsoft® Office included in this computer is only available in and can only be activated within the region in which you purchased it.
Certain Microsoft® software products included with this computer may use technological measures for copy protection. In such case, you will not be able to use the Product if you do not activate it with Microsoft. Activation may be completed by Internet or telephone (toll charges may apply). Product Activation procedures and Microsoft's privacy policy will be detailed during initial launch of the Product, or upon certain reinstallations of the software products or reconfiguration of the computer.

[17] **Warranty:** The terms and conditions of Toshiba's standard limited warranty are available at www.warranty.toshiba.com.

[18] **RoHS.** This notebook is compatible with European Union Directive 2002/95/EC, Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS), which restricts use of lead, cadmium, mercury, hexavalent chromium, PBB, and PBDE. Toshiba requires its notebook component suppliers to meet RoHS requirements and verifies its suppliers' commitment to meeting RoHS requirements by conducting component sampling inspections during the product design approval process.

[19] **Temperature (Environmental) Conditions**. All temperature references are approximate and the performance of your computer may vary from specifications even when operating within the recommended temperature range.

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